

Unparalleled Performance

Satcon enables you to closely match array capacities to achieve maximum energy throughput.



Edge™ MPPT

Features a proprietary maximum power point tracking (MPPT) system

Provides rapid and accurate control

Improves performance by up to 20%, even in challenging climate conditions

Boosts overall PV plant kilowatt yield

Provides a wide range of operation across all photovoltaic cell technologies, including thin film, monocrystalline, and polycrystalline PV panels

Power Efficiency

Full array nameplate power rating maintained throughout the entire MPPT DC voltage range

Superior dynamic performance in cloudy conditions

Printed Circuit Board Durability

Wide thermal operating range: -40° C (-40° F) to 85° C (185° F)

Conformal coated to withstand extreme humidity and air-pollution levels

PowerGate® Plus 500 kW Commercial Solar PV Inverter



Profitable PV Power

The Satcon® PowerGate® Plus 500 kW PV inverter has a significant impact on the profitability dynamic of large-scale solar PV systems. With its unparalleled system intelligence, next-generation Edge™ MPPT technology, and industrial-grade engineering, the PowerGate Plus 500 kW inverter maximizes system uptime and power production, even in the harshest environments.

Commercial and Utility Scale

The world's largest solar power installations depend on Satcon PowerGate Plus PV inverters to provide efficient and stable power—even in the harshest climates.

Advanced, Rugged, and Reliable

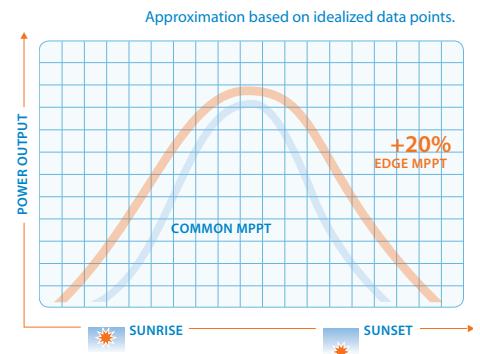
Engineered from the ground up to meet the demands of large-scale installations, Satcon PV inverters feature an outdoor-rated enclosure, advanced monitoring and control capabilities, and Edge,™ Satcon's next-generation MPPT solution.

Proven Performance

The proven leader in solar PV inverter solutions for commercial installations, Satcon sets the standards for efficient large-scale power conversion.

Increased PV Plant Yield

At the heart of PowerGate Plus is Edge, Satcon's next-generation power optimization solution. With rapid and accurate MPPT control, Edge increases PV plant kilowatt yield up to 20 percent by extending the production window of arrays, enabling them to operate at optimal voltage and current levels for longer periods of time—even in varied sun conditions. To maximize efficiency, Edge improves the performance of all PV technologies, including fixed and tracking solar arrays, enabling you to get the most from your investment.



Proven Reliability

Rugged and reliable, PowerGate Plus PV inverters are engineered from the ground up to meet the demands of large-scale installations.

Low Maintenance

Modular components make service efficient

Dual cooling fans

Safety

Seismic Zone 4 compliant

Built-in DC and AC disconnect switches

Integrated DC two-pole disconnect switch isolates the inverter (with the exception of the GFDI circuit) from the photovoltaic power system to allow inspection and maintenance

Built-in isolation transformer

Protective cover over exposed power connections

PowerGate Plus 500 kW Specifications			UL/CSA	CE
Input Parameters				
Maximum Array Input Voltage		600V DC	●	
		900V DC	○	●
Input Voltage Range (MPPT; Full Power)	208V AC ¹	333–600V DC	●	
	265V AC ¹	420–850V DC	○	●
	400V AC	420–850V DC		●
	480V AC	320–600V DC	●	
Maximum Input Current	208V AC ¹	1,564A DC	●	
	265V AC ¹	1,228A DC	●	●
	400V AC	1,247A DC		●
	480V AC	1,628A DC	●	
Output Parameters				
Output Voltage Range (L-L)	208V AC ¹	176–220V AC	●	
	265V AC ¹	233–292V AC	○	●
	400V AC	352–440V AC		●
	480V AC	422–528V AC	●	
Nominal Output Voltage		200V AC ²	●	
		265V AC ²	○	●
		400V AC		●
		480V AC	●	
Output Frequency Range		59.5–60.5 Hz	●	
		49.5–50.5 Hz		●
AC Voltage Range Set Points		-12%/+10%	●	●
Nominal Output Frequency		60 Hz	●	
		50 Hz		●
Number of Phases		3	●	●
Maximum Output Current per Phase	208V AC ¹	1,388A	●	
	265V AC ¹	1090A	○	●
	400V AC	722A		●
	480V AC	602A	●	

● Standard ○ Optional



The integrated external transformer is standard on the 400V AC and 480V AC models only; custom transformer solutions are also available.

PowerGate Plus 500 kW Specifications		UL/CSA	CE
Maximum Overcurrent Protection per Phase	208V AC ¹	1,805A	•
	265V AC ¹	1,362A	○
	400V AC	903A	•
	480V AC	752A	•
CEC-Weighted Efficiency	208V AC ¹	97%	•
	265V AC ¹	97%	○
	400V AC	96%	•
	480V AC	96%	•
Maximum Continuous Output Power	500 kW (500 kVA)		•
Tare Losses	208V AC ¹	138.12 W	•
	265V AC ¹		○
	400V AC		•
	480V AC	-138.12 W	•
Power Factor at Full Load	>0.99		•
Harmonic Distortion	<3% THD		•
Temperature			
Operating Ambient Temperature Range (Full Power)	-20° C to +50° C		•
Storage Temperature Range	-30° C to +70° C		•
Cooling	Forced Air		•
Noise			
Noise Level	<65 dB(A)		•
Combiner			
Number of Inputs and Fuse Rating	20 (160A DC) (Opt.)		○
	30 (100A DC) (Opt.)		○
Transformer			
Integrated External Transformer	400V AC		•
	480V AC		•
Low Voltage Tap Line ²	20%		•
Inverter and Integrated External Transformer Cabinets			
Enclosure Rating (Outdoor) (IEC Grade)	NEMA 3R, IP44		•
Enclosure Finish (14-Gauge, Powder-Coated Steel)	RAL-7032		•
Base and Door Finish (16-Gauge, Powder-Coated Steel)	RAL-7032		•
Cabinet Dimensions (Height x Width x Depth)	Inverter	93.47" x 138.75" x 42.47" (235.5 cm x 352.43 cm x 107.87 cm)	
	Transformer	77" x 49" x 30.5" (195.58 cm x 124.46 cm x 77.47 cm)	
Cabinet Weight	Inverter	5,900 lbs.	2,676 kg
	Transformer	3,200 lbs.	1,451 kg

• Standard ○ Optional

Streamlined Design

With all components encased in a single, space-saving enclosure, PowerGate Plus PV inverters are easy to install, operate, and maintain.

Single Cabinet with Small Footprint

No clearance required for sides and back

Convenient access to all components

Large in-floor cable glands make access to DC and AC cables easy

Rugged Construction

Engineered for outdoor environments

Output Transformer

Provides galvanic isolation

Matches the output voltage of the PV inverter to the grid

Quiet Operation

65 dB(A) standard



Output Options

PowerGate Plus 500 kW

UL/CSA	200V AC ¹ Output
	265V AC ¹ Output
	480V AC Output
CE	265V AC ¹ Output
	400V AC Output

PowerGate Plus 500 kW Specifications

	UL/CSA	CE
Testing and Certification		
UL1741, CSA 107.1-01, IEEE 1547, IEEE C62.41.2	•	
CE Certification		•
Zone 4 Seismic Rating	•	•
Warranty		
Five Years	•	•
Extended Warranty (10, 15, or 20 years) (Optional)	○	○
Extended Service Agreement (Optional)	○	○
Intelligent Monitoring		
Satcon PV View® Plus (Optional)	○	○
Satcon PV Zone (Optional)	○	○
Third-Party Compatibility	○	○

- Standard
- Optional

¹ External transformer

² The 20% boost tap on the isolation transformer increases the AC voltage output range for applications where the solar array DC operating voltage is at or near the lower end of the DC input range. This boost allows for continued inverter operation at lower DC voltage input levels.

Note: Specifications are subject to change.

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